

**Patent Claims**

1. Deformable aerodynamic profile (1) having a front profile area (2) and a rear profile area (3) in the outflow and bordered by a shell (4, 5) on the pressure side and on the suction side which converge in a rear profile edge (6), characterized in that the profile (1) is provided with d33 piezo actuators (7) in at least some locations for its deformation, whereby their length changes essentially in the direction of the planes of the shells (4, 5) when acted upon by electricity.

2. Deformable aerodynamic profile (1) as claimed in Claim 1, characterized in that the d33 piezo actuators (7) are arranged on the shell (4, 5) on the pressure side and/or on the suction side.

3. Deformable aerodynamic profile (1) as claimed in Claim 1, characterized in that the d33 piezo actuators (7) are integrated into the shell (4, 5) on the pressure side and/or on the suction side.

4. Deformable aerodynamic profile (1) as claimed in Claim 3, characterized in that the shell (4, 5) have/has a composite structure on the pressure side and/or on the suction side.

5. Deformable aerodynamic profile (1) as claimed in any one of Claims 1 through 4, characterized in that at least one flap (9) which is equipped with d33 piezo actuators (7) is hinge-connected to the profile (1), whereby the length expands essentially in the direction of the plane of the flap (9) when acted upon by electricity.

6. Deformable aerodynamic profile (1) as claimed in Claim 5, characterized in that the at least one flap (9) is hinge-connected to the rear profile edge (6).

7. Deformable aerodynamic profile (1) as claimed in any one of the preceding claims, characterized in that the d33 piezo actuators (7) consist of stacked piezoelectric elements (8) with the electrodes (8a) integrated into them.

8. Deformable aerodynamic profile (1) as claimed in Claim 7, characterized in that the electric field (E) for inducing the d33 effect is supplied via the electrodes (8a).

9. Deformable aerodynamic profile (1) as claimed in Claim 7, characterized in that the laminar d33 piezo actuators (7) have a thickness (d) of approximately 0.5 to 2.5 mm.

10. Deformable aerodynamic profile (1) as claimed in Claim 7 or 9, characterized in that the laminar d33 piezo actuators (7) have side edge dimensions (a, b) of approximately 5 to 60 mm.

11. Deformable aerodynamic profile (1) as claimed in any one of the preceding claims, characterized in that the aerodynamic profile is a helicopter rotor blade, an aircraft wing, a turbine blade or the like.